

Industry Update

Broadband 2003: Deflation Looms and Market Shares Will Shift

ILECs Moving to the Forefront; AOL Not Yet a Factor; MSOs Most at Risk

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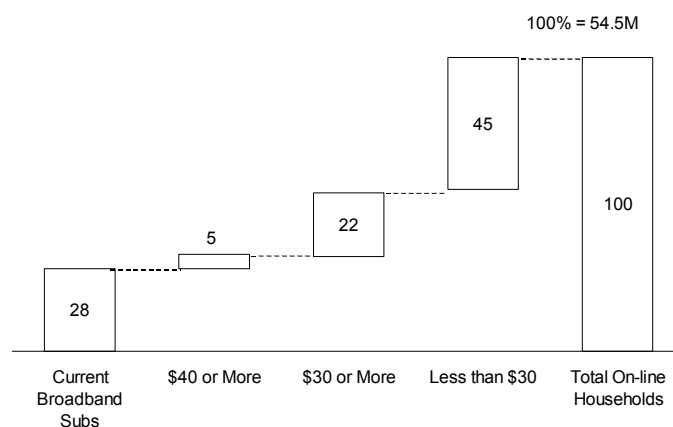
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- **Broadband pricing (excluding promotions) must decline to \$30 by fourth quarter 2003** or the industry will face significantly slowing net adds shortly thereafter. These lower price points suggest broadband ARPUs will decline in 2004 and beyond.
- **ILECs are now pricing meaningfully below the MSOs** for both the rack rate and the most bundled rates. In addition, the ILECs have introduced aggressive promotions and have beaten the MSOs to market with slower speed tiered offers.
- **ILECs' share of net adds should increase to 50% in 2003**, significantly lowering cable modem market share. The ILECs' market share gains should be fuelled by an expanded footprint and meaningfully lower prices.
- **Most AOL subs will not migrate to broadband at current price points**, suggesting dial-up ISPs can coexist with broadband providers for some time. Even at \$30, more than half of AOL's dial-up subs indicate that broadband is too expensive.
- **AOL is unlikely to drive broadband market share because AOL Broadband is too expensive.** This suggests AOL must significantly increase the premium consumers are willing to pay for AOL's content.

Figure 1: Large Portion of On-Line Users Are Price-Sensitive

(percent, millions of households)



Source: JPMorgan Broadband Survey.

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PURPOSE OF THIS REPORT

Broadband growth continues unabated, exceeding most investors' expectations rather handily. However, underneath the robust net adds (and decent margins), numerous industrial questions loom large. In this report, we hope to answer the most prominent of these questions:

- First, how much are consumers willing to pay for broadband, and what are the implications for overall broadband demand and pricing?
- Second, will cable's dominance in the broadband market continue, or will the ILECs' DSL service begin to capture a larger share of the market?
- Third, how will AOL's dominance in the dial-up world influence the evolution of the broadband market? Will AOL and the broadband providers peacefully coexist (BYOA¹), cooperate (MISP²) or compete (price war)?

In addition to this industry analysis, a separate report (published concurrently) assesses the company-specific implications of this analysis on the MSOs (Jason Bazinet).

INVESTMENT THESIS

Our research leads to three broad conclusions:

- First, the ILECs and MSOs will need to meaningfully lower broadband prices in late 2003 or face a material slowdown in net adds, and contrary to the hopes of the broadband providers, ARPU's probably won't increase but begin an irreversible decline with the recent introduction of tiered pricing.
- Second, we think cable's dominance in the broadband market will wane as the ILECs capture a larger share of net adds throughout next year. Significant footprint expansion for both cable and DSL has resulted in a meaningful increase in footprint overlap between the two providers. This suggests that price—rather than availability—will likely be the key driver of market share. With the ILECs currently discounting more aggressively than the MSOs, we expect the ILECs to capture a larger share of the broadband market than they ever have.
- Third, AOL's dial-up subscribers are relatively insulated in the near term from broadband migration because 90% of AOL's dial-up users are *unwilling* to migrate to broadband at current price points. However, once the pipe owners begin to lower prices—which we think they must—AOL's outlook is less clear. In the interim, however, the same price sensitivity that will likely insulate AOL from broadband migration will also make third-party carriage deals (MISP) largely ineffective given consumers' price sensitivity.

¹ BYOA stands for Bring Your Own Access. Under this pricing plan, consumers buy generic broadband from the ILEC or MSO and then separately pay AOL for content. Currently, BYOA is offered for \$15 per month.

² MISP stands for Multiple Internet Service Provider. Under this pricing plan, ISPs are allowed to resell wholesale cable modem or DSL services. The broadband offer would be branded under the ISP's name, but connectivity is provided by the MSO or ILEC.

BROADBAND PRICING AND DEMAND

In this section of the report, we hope to answer four separate (but related) questions. First, how much are consumers willing to pay for broadband? Second, how should the MSOs and ILECs price broadband services to maximize revenues? Third, how soon will broadband pricing have to change? And fourth, what are the implications for the overall broadband revenue opportunity?

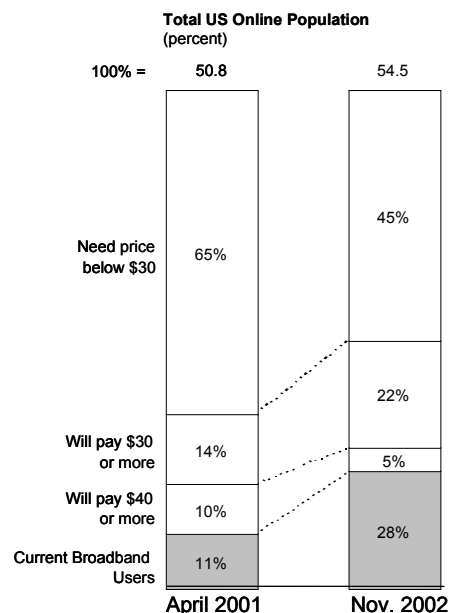
Demand for Broadband

To date, broadband demand has been remarkably robust, even in the face of increasing prices. However, we think that over the long term, broadband prices must be reduced. The key questions, however, are “How low must prices go?” and “How soon must it happen?”

Consumer Are Price-Sensitive

In April 2001, JPMorgan and McKinsey & Company jointly published *Broadband 2001*. One of the key findings in that study was that only 35% of all on-line households would be willing to pay \$30 a month (or more) for broadband services. In November 2002, we conducted a similar survey³, and the results provided both good news and bad news for broadband providers. The good news is that consumers have become less price-sensitive over the past 18 months. The bad news is that a very large portion of on-line households—nearly half—remains price-sensitive, unwilling to pay more than \$30 a month for broadband (see Figure 2). This suggests prices must go below \$40 a month for broadband to capture a larger share of dial-up subs.

Figure 2: Consumers Are Less Price-Sensitive Than in 2001



Source: JPMorgan Broadband Survey.

³ We should note that there was one meaningful difference between the two surveys—while the 2001 data surveyed all on-line households, the 2002 data focused solely on AOL households. Although this change may have skewed the results, we elected to focus on AOL subs given the size and importance of AOL’s on-line strategy on the evolution of the broadband market.

Note: The April 2001 data are from a joint study using primary market research conducted by McKinsey & Company and JPMorgan. The November 2002 data are from JPMorgan's Broadband Survey, with results as of third quarter 2002.

\$25 ARPUs May Be Economically Unattractive

Since half of all consumers are very price-sensitive—needing prices that are below \$30—a key question emerges. “Should broadband providers keep prices at \$30 or above and forego a large part (i.e., 47%) of the market?” Or, alternatively, should they go after the price-sensitive customer? Based on our projection of broadband economics, we think it will be difficult for MSOs or ILECs to profitably offer a \$25 broadband service, even at 128K, because total operating costs—including acquisition costs and customer equipment—will still be around \$25 per subscriber in 2005, in our estimation.

Table 1: Cable Broadband Economics

	2001	2002E	2003E	2004E	2005E	2006E	2007E
Maintenance	1	1	1	1	1	1	1
Cust serv/billing	7	5	4	4	4	4	4
Install	5	3	3	2	2	2	2
Transport / connectivity	12	10	8	7	7	7	6
SAC, CPE, marketing	27	17	14	13	11	10	9
Total operating costs	52	36	30	27	25	23	22
ARPU	38	39	39	36	35	34	34
- Operating costs	(52)	(36)	(30)	(27)	(25)	(23)	(22)
= EBITDA per sub	-14	3	8	9	10	11	12
% margin	(37.2%)	7.9%	21.5%	24.6%	29.2%	32.6%	35.7%
% margin excl SAC, marketing	34.0%	51.9%	57.7%	60.5%	60.6%	61.7%	62.2%

Source: Company reports and JPMorgan estimates.

Dial-Up Will Likely Endure

Although we expect operating costs to dip below \$25 by 2007, we think consumers will become *more* price-sensitive regarding broadband over time. That's because we expect dial-up pricing to meaningfully decline, keeping broadband pricing in check. For example, United Online currently offers dial-up services for \$10 a month. (We expect other dial-up ISPs to follow with similarly priced plans.) Consequently, consumers that would perceive a \$25 broadband offer as attractive today probably won't find it attractive in the future as the dial-up price umbrella disappears. Or, to put it another way, we expect broadband penetration will likely be capped at around 50% of all on-line households.

Our Broadband Forecast

Our broadband forecast, which is predicated on declining ARPUs, calls for broadband penetration to nearly double from 30% at the end of 2002 to over 55% by 2007. Net adds should peak in 2003 and then begin to decline thereafter, with total broadband subscribers growing to 41 million households from 17 million over the next five years.

Table 2: Residential Broadband Access Market

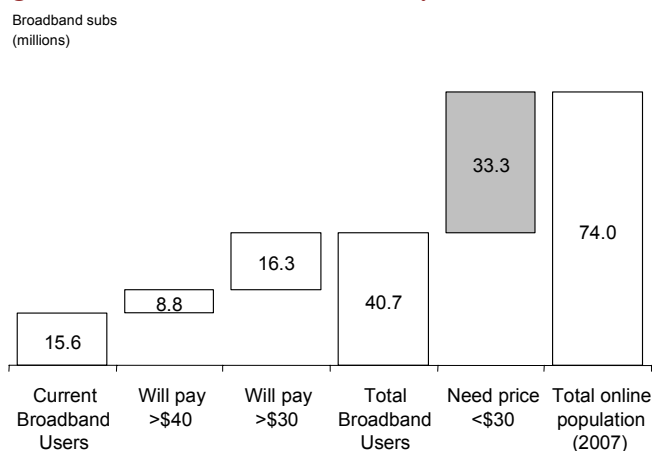
(households in millions)

	1999	2000	2001	2002E	2003E	2004E	2005E	2006E	2007E	CAGR 02E-07E
Total households	103.9	105.0	106.4	107.7	109.0	110.4	111.7	113.4	115.1	1.3%
X PC penetration of US HHs (EOP)	48.0%	53.0%	53.0%	55.0%	57.3%	58.0%	59.0%	59.4%	60.0%	1.8%
= PC households (EOP)	49.9	55.7	56.4	59.2	62.5	64.0	65.9	67.4	69.0	3.1%
X Online % penetration of US PC HH (EOP)	69.4%	79.4%	87.9%	95.8%	99.7%	99.5%	99.3%	99.1%	98.9%	0.6%
= Online households (EOP)	42.9	49.0	50.8	56.7	62.3	63.7	65.4	66.8	68.2	3.8%
+ Set-Top Box computing			0.3	0.4	0.5	1.0	2.1	3.8	5.8	70.7%
= Total online households			51.1	57.1	62.8	64.7	67.5	70.6	74.0	5.3%
X Broadband penet. of online HH	4.7%	12.4%	22.0%	30.1%	37.4%	45.0%	50.1%	53.0%	55.0%	12.8%
= Broadband online households (EOP)	2.0	6.1	11.2	17.2	23.5	29.1	33.8	37.4	40.7	18.8%
Memo: Broadband growth (%)	-	-	200%	84.7%	53.0%	36.7%	23.9%	16.2%	10.5%	8.9%
Memo: Broadband net adds	2.0	4.1	5.2	6.0	6.3	5.6	4.7	3.5	3.3	
Memo: Dial-up households (EOP)	40.9	42.9	39.6	39.5	38.8	34.5	31.6	29.4	27.5	(7.0)%
Memo: Dial-up % penet. of online HH	95.3%	87.6%	77.9%	69.7%	62.3%	54.3%	48.3%	44.0%	40.3%	(10.4)%

Source: Company reports and JPMorgan estimates.

Extrapolating from the survey data, we are able to quantify consumer demand for broadband service. We estimate that there are roughly 24.4 million consumers willing to pay greater than \$40 a month for broadband service, including 15.6 million current broadband subscribers. Hence the incremental market opportunity at current pricing levels is only 8.8 million potential customers (see Figure 3). This indicates that service providers will need to lower pricing to below \$40 a month in order to attract incremental consumers. (We explore this topic in greater detail beginning on page 9.)

Figure 3: 2007E Broadband Market by Price Point



Source: Company reports, JPMorgan estimates, and JPMorgan Broadband Survey.

Table 3: Size of Broadband Market at Key Price Points, 3Q02

(units in millions)

ARPU	\$40	\$30
Total online market (2007)	74.0	74.0
x Portion of market at price level (%)	33%	22%
= Consumer demand	24.4	16.3
- Current subscribers	15.6	0.0
= Available market	8.8	16.3

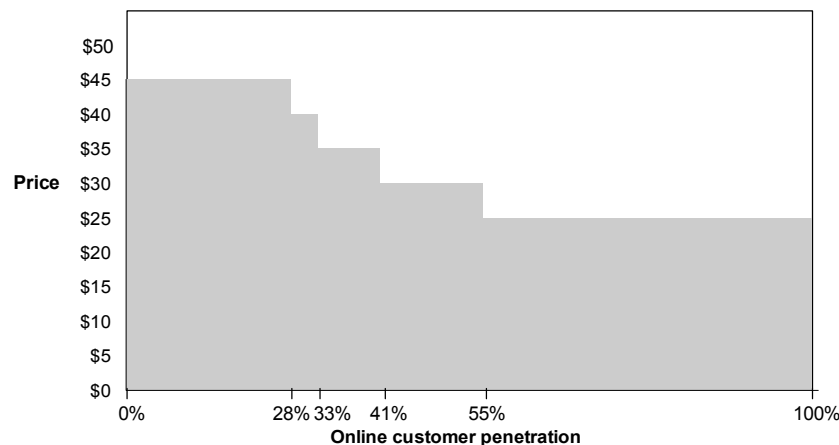
Source: Company reports and JPMorgan Broadband Survey.

Pricing to Maximize Revenues

Broadband Demand Curve

Even if the broadband market is limited to half of on-line households, we still need to determine the best pricing strategy to maximize revenues. Fortunately, the same survey data can be used to design a pricing plan that would maximize revenues (and profits) for the broadband industry. To optimize revenues, operators would charge each customer *exactly* the price they are willing to pay, and no less—in effect, a demand curve. In Figure 4, we've depicted this pricing strategy using the same survey results from Figure 2.

Figure 4: Broadband Pricing Plan to Maximize Profits



Source: JPMorgan Broadband Survey.

Thus, in an ideal world, broadband operators would offer four price points to capture the maximum amount of revenues (i.e., \$45, \$40, \$35, \$30). However, with highly granular pricing, operators run the risk of cannibalizing high ARPU customers who may migrate to lower price plans. For the broadband provider, this poses a dilemma. How can an MSO or ILEC ensure that those paying high prices don't migrate to a lower-priced service?

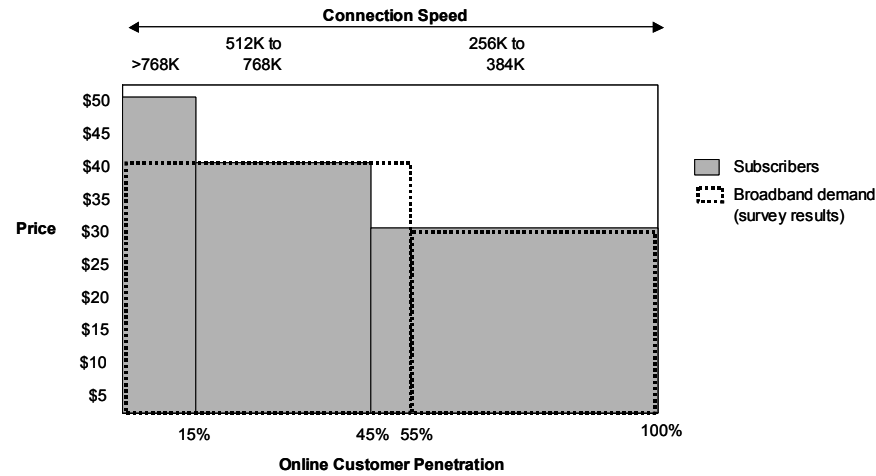
Polarized Tiered Pricing

To prevent cannibalization, broadband providers must differentiate the service by offering slower speeds for lower prices. But how much slower? Charter—the only MSO with a tiered offering—offers some insight into the question. Figure 5 shows Charter's *current* broadband subscriber base mapped against our survey data. There are two important takeaways. First, Charter's pricing corroborates our survey data, suggesting that our survey is accurate. Second, Charter's pricing is probably the most practical way to maximize revenues for the broadband market. We elaborate on both points below.

Charter Results Corroborate Our Survey Data

When we look at the composition of Charter's tiered subscriber base against the backdrop of the survey results, we see fairly strong evidence supporting a bifurcation of the broadband market. The survey results indicate that roughly 55% of broadband customers are willing to pay \$40 or more for service, with the rest willing to pay \$30 or more. Charter's own mix of subscribers is very similar. (We should note that a large portion of the 15% of Charter's customers that are paying \$50 a month are small businesses, which were excluded from our survey.)

Figure 5: Charter's Experience with Price Tiers



Source: Charter, and JPMorgan Broadband Survey.

Charter's Pricing Is Probably Optimal

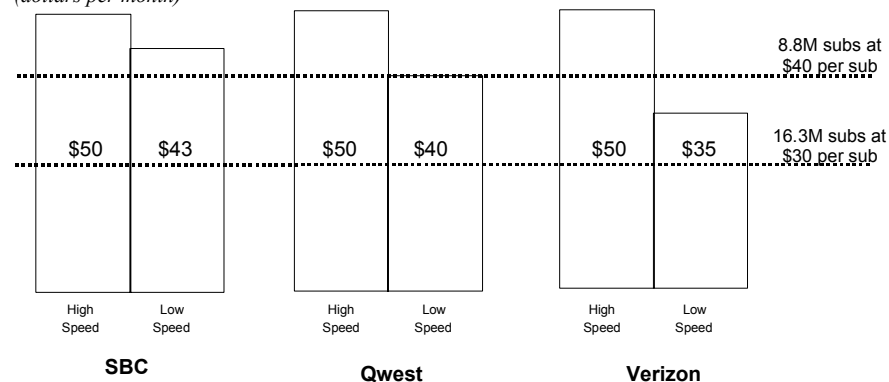
We think the optimal pricing strategy for broadband providers is to price broadband similar to Charter's current offering for three reasons. First, Charter's results closely match our survey data, suggesting they have priced the offering consistent with consumers' willingness to pay. Second, Charter's lower priced offer (at \$30) is priced low enough to capture the majority of future demand. Third, and most importantly, Charter offers speeds and price points that prevent significant cannibalization. That is, by *not* offering broadband at \$35 for a speed between 384K and 512K, Charter has prevented the \$40 customer from migrating to a lower-priced offer. So although Charter's pricing isn't as granular—or optimal—as the demand curve in Figure 4, we think it's the most practical solution. Thus three speeds and three price points (at \$50, \$40, and \$30 a month) is probably the best way to maximize revenue and minimize cannibalization.

ILEC Pricing Is Not Optimal

In Figure 6, we've compared the ILECs' current broadband pricing relative to the source of future broadband demand. The data suggest that DSL pricing is still too high, even after the launch of lower-priced, slower-speed services. Without an offer at the \$40 price point, the ILECs (with the exception of Verizon) will forego 8.8 million net adds, and without an offer at the \$30 price point, the ILECs forego 16.3 million net adds. Again, we believe Charter's pricing is more realistic given customers' price sensitivity.

Figure 6: ILEC Pricing Still Too High for Largest Portion of the Market

(dollars per month)



Source: Company reports and JPMorgan estimates.

How Soon Will Prices Decline?

If we're right and broadband pricing conforms to Charter's current offering with two mass-market offers—at \$40 and \$30—a key question emerges. When will prices need to come down from current levels? Based on our current projections for subscriber growth, we believe that operators will need to launch a differentiated service targeting the low end of the market with a \$30 offer by fourth quarter 2003. We estimate the incremental demand for broadband service in 2003 at the \$40 level to be roughly 5.1 million subscribers, hence our projection for 6.3 million net adds next year is predicated on operators effectively tapping the layer of consumer demand at the \$30 price level.

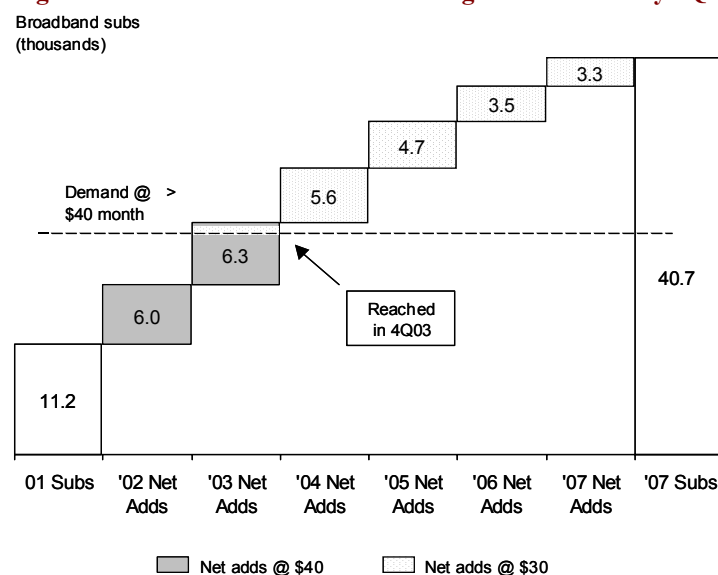
Table 4: Addressable Market Demand in 2003E

<i>(units in millions)</i>	
Online households	62.8
x % of market demand at \$40 price level	33%
= Consumer demand	20.7
- Current subscribers	15.6
= Available net adds @ \$40	5.1
Projected 2003 net adds	6.3
- Available net adds @ \$40	5.1
= Implied net adds @ \$30	1.2

Source: Company reports and JPMorgan estimates.

Figure 7 provides a breakdown of our projections for growth in broadband subscribers' remaining addressable demand for broadband through 2007. Most notably, the figure shows that the bulk of future subscribers going forward will be added at price points significantly lower than in the past.

Figure 7: We Believe Broadband Pricing Must Decline by 4Q03



Source: Company reports and JPMorgan estimates.

Note: We have assumed nearly 1 million subs permanently pay less than \$40 per month for broadband given Charter's tiered offer, Cox's discount on the triple play, and several MSOs' data discount for digital video customers (see page 19 for further detail of current pricing plans).

To some extent, we have already seen effective pricing start to come down, once adjustments are made for promotional discounts on new service contracts. While successful in providing a temporary lift to net ads, these offers have historically resulted in very high churn at the end of the promotion period. In other words, many consumers who were happy to pay the promotional \$30 a month for service disconnected their service once their service plans reverted to the higher retail rate of \$50 per month. This consumer behavior provides further evidence of the degree of price sensitivity of consumers.

Implications for Broadband Revenues

ARPU's Going Down, Not Up

Some operators have suggested that ARPUs will increase when tiered services are launched. This increase in ARPU assumes that a large portion of customers migrate to higher-speed, higher-priced service. We believe that demand for super-high connection speeds in the residential marketplace is likely very small and would do very little to stem the deflationary impact of a lower-priced service. Our analysis suggests ARPUs will decline from around \$40 currently to \$36 by 2007.

Table 5: Broadband Revenues

(\$ in billions; subscribers in millions)

	2002E	2003E	2004E	2005E	2006E	2007E	CAGR 02E-07E
Total revenues	\$ 6.8	\$ 9.6	\$ 12.0	\$ 14.0	\$ 15.6	\$ 16.9	20.0%
/ Average subs	14.2	20.2	26.2	31.4	35.6	39.0	22.4%
= Total ARPU	\$ 40.00	\$ 39.70	\$ 38.11	\$ 37.05	\$ 36.52	\$ 36.23	(2.0%)
Avg. subs @ \$40*	14.2	19.6	21.3	22.2	23.2	24.3	11.3%
x \$40 ARPU	40	40	40	40	40	40	--
x 12 months	12	12	12	12	12	12	--
= Revenues from \$40 subs	6.8	9.4	10.2	10.6	11.1	11.7	11.3%
Avg. subs @ \$30	0.0	0.6	4.9	9.3	12.4	14.7	N/a
x \$30 ARPU	30	30	30	30	30	30	--
x 12 months	12	12	12	12	12	12	--
= Revenues from \$30 subs	0.0	0.2	1.8	3.3	4.5	5.3	N/a
Memo: Rev. growth (%)	75.7%	41.3%	24.3%	16.5%	11.6%	8.8%	

Source: Company reports and JPMorgan estimates. * Based on results of JPMorgan's proprietary broadband survey.

THE BATTLE FOR MARKET SHARE

So far, we have shown that the broadband market will likely be limited to half of all on-line households and that ARPUs will likely decline as broadband providers offer a lower-priced, slower-speed service. We now turn our attention to the battle for broadband market share between the ILECs and the MSOs.

The battle for market share between DSL and cable modems is influenced by two primary factors—service availability and price⁴. In this section of the report, we examine the current data footprints and pricing plans for both the ILECs and the MSOs. Our objective is to develop our market share forecasts for DSL and cable for 2003 and beyond.

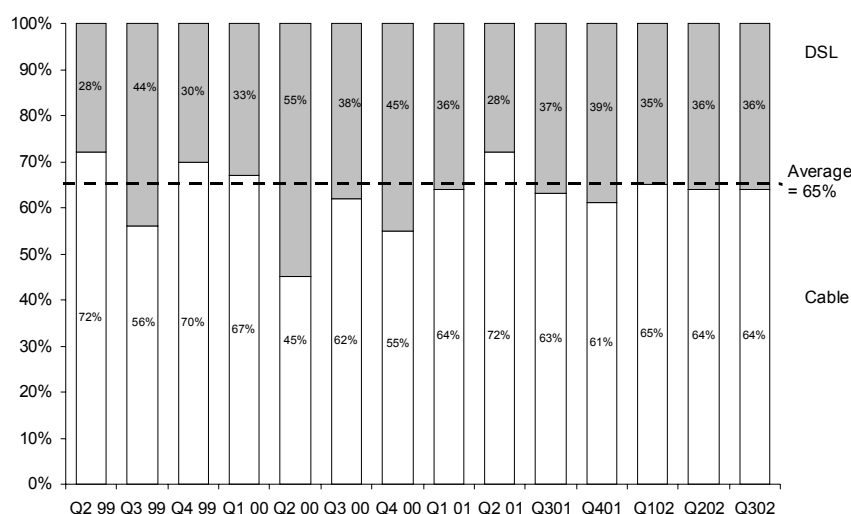
⁴ Although conceptually AOL could play a meaningful role in determining market share between DSL and cable, we show in the next section (beginning on page 14) that consumers' price sensitivity is likely to meaningfully diminish the impact of AOL on the overall broadband market.

Historic Market Share

Over the past four years, the battle for market share has clearly favored the MSOs. Almost without exception, the MSOs have captured around two-thirds of the residential broadband market in each of the last 14 quarters. However, as we'll see, with meaningful shifts in footprint and pricing, we think the share of net adds will likely become a bit more balanced over the next several quarters.

Figure 8: Historic Residential Broadband Market Share

(percent)



Source: Company reports.

Availability of Broadband

Historically, cable has enjoyed a meaningful footprint advantage over DSL. However, we see strong evidence that this gap is beginning to close. This suggests that footprint is unlikely to determine market share in 2003 and beyond.

MSO and ILEC Footprint Expands

As of third quarter 2002, just under 80 million homes were enabled for cable modem service in the United States, up from around 70 million three years ago. Most of the new upgraded areas have come from portions of the U.S. already served by DSL.

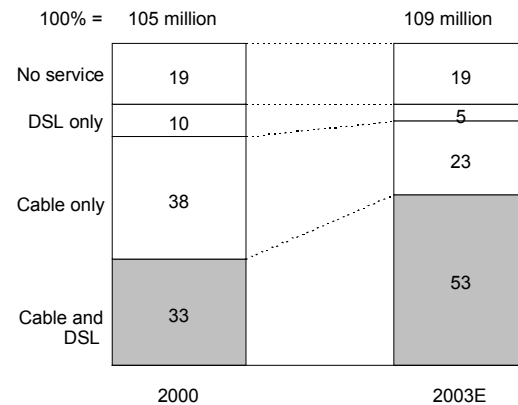
While still lagging their MSO counterparts, the ILECs have continued to make large strides in upgrading the bulk of their residential local loops for DSL service. As of third quarter 2002, around 60 million households were enabled for DSL service in the U.S., up from just over 40 million three years ago. While the Bells have been announcing continued reductions in capex spending for 2003, we believe that the number of DSL-enabled homes will continue to grow, eventually reaching 65-70% of all households, or 75-85 million homes.

Overlap Continues to Increase

As the cable and DSL broadband footprint increases, head-to-head competition naturally increases as well. Over the past three years, the fraction of U.S. households with a choice between cable and DSL increased over 60% from 35 million to 58 million households (see Figure 9). With footprints no longer driving market share, we expect price will become an increasingly important factor.

Figure 9: Cable and DSL Overlap Is Increasing

(percent; millions of households)



Source: Company reports and JPMorgan estimates.

Note: The 2000 data are from a joint study conducted by McKinsey & Company and JPMorgan.

The Price of Broadband

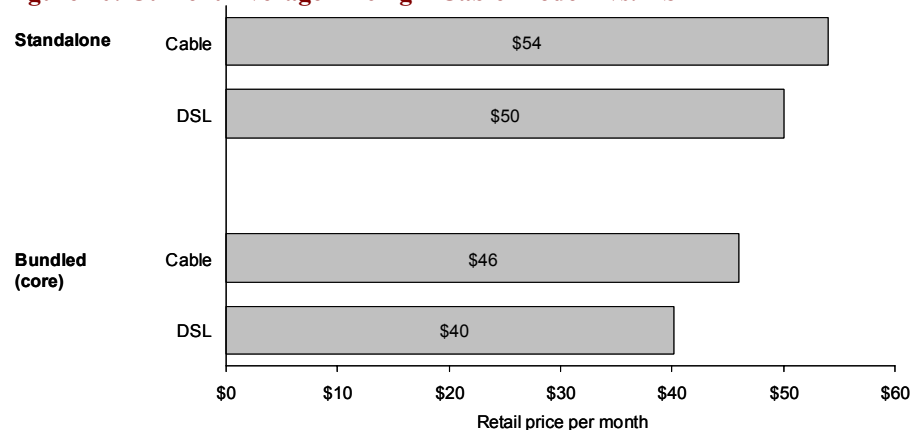
Historically, the ILECs have charged a meaningful premium to the MSOs for high-speed data. Indeed, some MSOs (like Cablevision) are in the midst of price increases to get more in line with the ILECs' offer. However, there are early signs that the DSL providers are getting more aggressive on price. With overlap increasing and ILECs offering lower prices, we think the odds of the MSOs losing share to the ILECs have increased significantly.

At the end of third quarter 2002, cable companies offered data at four price points, depending on the bundle. With the traditional analog/data bundle, MSOs charge around \$46 per month. If a consumer also buys digital video, the price declines to \$38 per month, and for those MSOs offering voice (like Cox) the data offer costs just \$33 per month.

For ILECs, the average price is \$40 per month if the consumer also purchases voice. Current ILEC promotional offers, however, allow consumers to buy DSL for three to 12 months at just \$20-30 per month. Thus, the ILEC are charging at least \$6 per month less for their bundled offer than the MSOs' analog/data bundle. And with the current promotional offer, the ILECs are charging up to \$10 less per month.

For a more detailed company-specific analysis of current broadband pricing, see the Appendix.

Figure 10: Current Average Pricing—Cable Modem vs. DSL



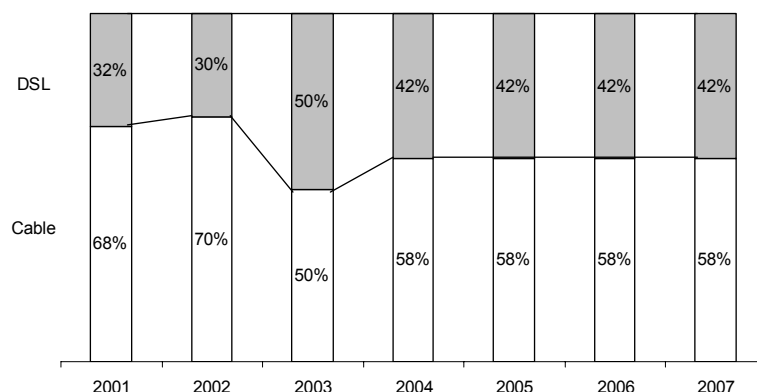
Source: Company reports and JPMorgan estimates.

Note: Pricing data assume that the customer purchases the modem. In general, if the consumer leases the modem, prices are \$5 higher, although the range varies among MSOs from as little as \$0 (Time Warner) to as much as \$15 per month (Cox).

Market Share Shift

We've assumed that DSL captures around 60% of the net adds where DSL and cable overlap due to lower-priced offers. Under that assumption, DSL should increase its market share to 50% of net adds in 2003. Thereafter, we assume cable responds with a low-priced offer allowing cable to capture a almost 60% of net adds from 2004 through 2007. Although this level of market share is less than cable enjoyed in 1999, 2000, and 2001, we believe cable's share will remain above 50% owing to its slightly superior footprint. In Figure 11, we show our market share forecast through 2007.

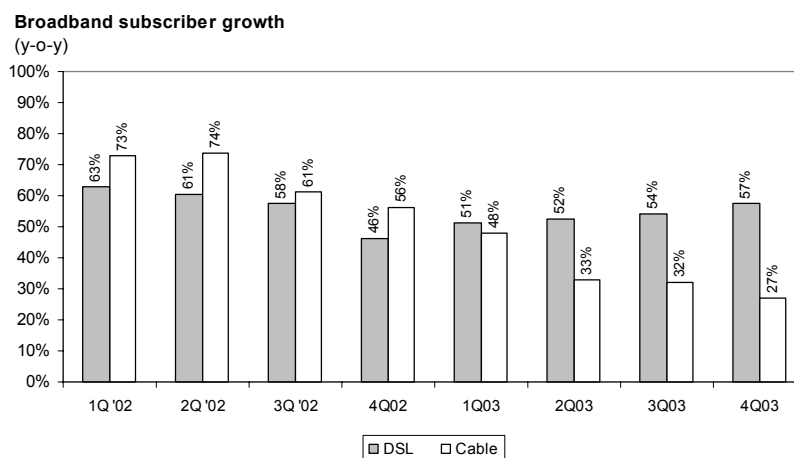
Figure 11: Estimated Market Share of Total Net Adds



Source: Company reports and JPMorgan estimates.

The shift in market share results in a significant slowdown in cable modem net adds for 2003. While DSL subscriber growth is expected to remain fairly strong, with growth exceeding 50% next year, growth in cable modem subscribers is expected to fall by nearly two-thirds to a 30% annual rate in 2003. However, we do not expect the market share shift to be sustainable once MSOs recalibrate their pricing plans to compete more effectively with DSL.

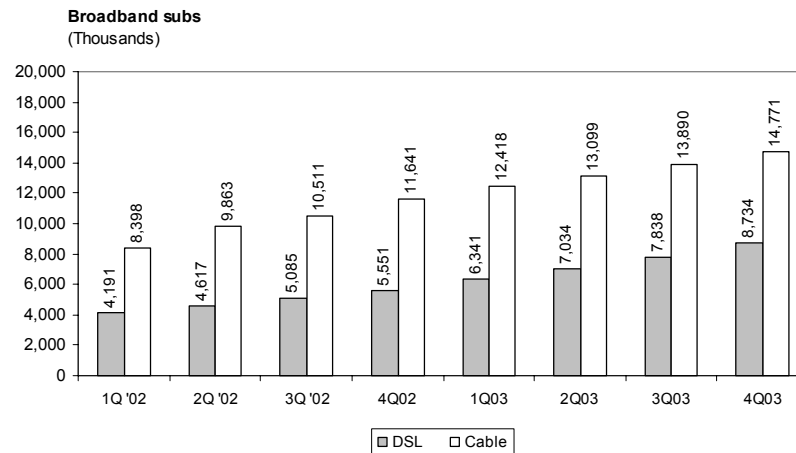
Figure 12: Subscriber Growth—Cable vs. DSL



Source: Company reports and JPMorgan estimates.

Accordingly, the gap between the number of total cable modem and DSL subscribers begins to close in 2003.

Figure 13: Broadband Subscribers—Cable vs. DSL



Source: Company reports and JPMorgan estimates.

We have already begun to see evidence of a potential shift in market share from BellSouth, which recently announced that it now expects to capture over 50% of net adds in its markets. For Verizon and SBC, aggressive promotions and discounting should also drive increased share of net adds until cable operators respond with their own price cuts. ILECs offer discounts of up to 30%. Also contributing to greater success on the part of the Bells is their growing ability to include long distance service in 14 new states where they have gained 271 approvals this year.

THE ROLE OF AOL

So far, we've shown that the broadband market will likely be limited to half of all on-line households and that ARPUs will likely decline as broadband providers offer lower-priced services. Moreover, we demonstrated that with an increase in the ILECs' footprint, coupled with lower-priced DSL offers, the ILECs will likely increase their share of net adds in 2003 and beyond. We now turn our attention to AOL. Our aim is to assess what impact, if any, AOL will have on the broadband market.

It All Hinges on What Consumers Are Really Buying

AOL's dominance in the dial-up world simply can't be ignored. Yet, even after three years of high-speed adoption, AOL's broadband strategy is still far from certain. To our way of thinking, AOL's strategy—and its role in the broadband battle—comes down to this: “Why do consumers pay AOL \$24 per month?” If the answer is *content*, then AOL should be able to successfully migrate its dial-up subs to broadband (via carriage deals or BYOA). However, if consumers pay AOL \$24 per month primarily for Internet *access*, then there are more serious risks to AOL. That's because AOL's dial-up subscribers will ultimately migrate to broadband without AOL because broadband is a substitute for, rather than a complement to, AOL's service.⁵ But in truth, AOL's value proposition is only half the question. The other critical question is the price sensitivity for generic broadband.

⁵ Of course, this assumes AOL isn't successful in developing and/or marketing proprietary content.

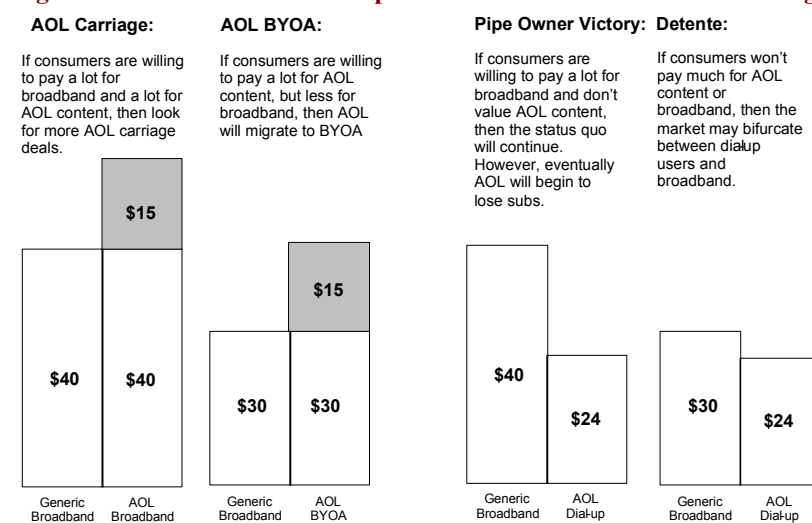
Four Possible Scenarios

Consumer's price sensitivity to AOL content and broadband Internet access leads to four broad industrial scenarios. We outline each of them below:

- If consumers are willing to pay high prices for broadband *and* high prices for AOL, consumers would willingly sign up for \$55 AOL Broadband, suggesting that both AOL and the MSOs will gravitate toward further carriage deals. That would be great for pipe owners *and* AOL. We've dubbed this industrial scenario **AOL Carriage**.
- But what if consumers won't pay that much for broadband but are still willing to pay for AOL? Then AOL will patiently wait for broadband prices to decrease, at which point AOL could migrate its dial-up base to BYOA. Under this scenario, which we've dubbed **AOL BYOA**, consumers might only pay \$45 per month, but a good portion of the value would accrue to AOL, not the pipe owners.
- Now let's assume a third scenario emerges, which we've dubbed **Pipe Owner Victory**. Under this scenario, consumers continue to flock to broadband at the \$40 price point. But eventually, these new broadband subs would come at the expense of AOL's dial-up subs. That would benefit the pipe owners at the expense of AOL.
- Finally, under a worst case scenario for all involved (except the consumer), let's assume consumers value neither broadband nor AOL content highly. This would suggest the market will bifurcate between dial-up and broadband or, alternatively, the pipe owners will meaningfully drop prices to entice AOL's dial-up users to migrate to broadband. We've dubbed this scenario **Détente**, because we don't think the broadband providers will drop prices significantly enough to prompt a price war (see page 5 for further explanation).

We've laid out these four industrial scenarios in Figure 14.

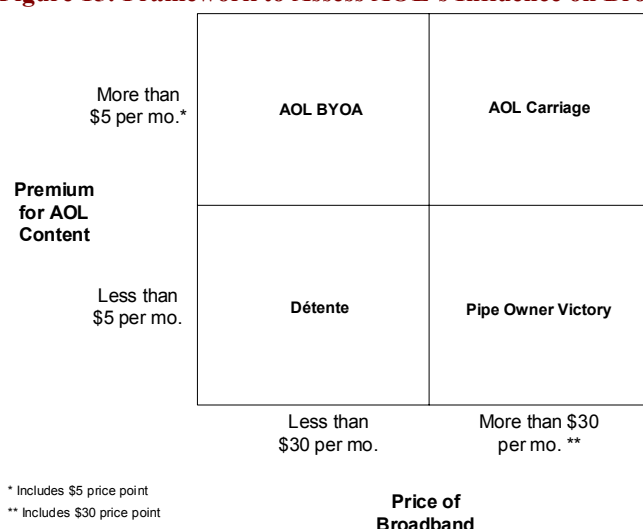
Figure 14: Influence of AOL Depends on What Customers Are Willing to Pay For



Source: JPMorgan.

We've simplified the four scenarios in Figure 14 and depicted them in a matrix. The two axes reflect the two central questions we posed earlier: (1) "How much will consumers pay for AOL content?" and (2) "How much will consumers pay for broadband Internet access?"

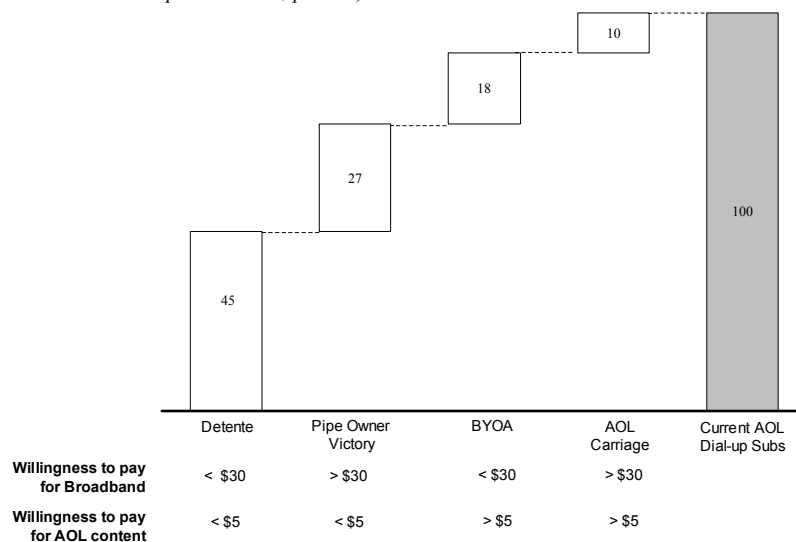
Figure 15: Framework to Assess AOL's Influence on Broadband Market



Source: JPMorgan.

The key question for AOL, the ILECs, and the MSOs is, "What portion of AOL's dial-up subscribers belong in each quadrant in Figure 15?" Relying on our proprietary survey, here's what we found.

Figure 16: Most AOL Subs Unwilling to Pay a Premium for AOL or for Broadband
(total US AOL dial-up subscribers; percent)



Source: JPMorgan Broadband Survey.

"Détente" Is Most Likely

Around 45% of AOL's subs were unwilling to pay \$30 or more for broadband or \$5 or more for AOL content. That suggests these subs aren't at risk of migrating to generic broadband until the MSOs and ILECs reduce prices further. Since we think it's unlikely that either broadband provider will price this aggressively, it suggests the broadband providers will likely forego 50% of the Internet market to the dial-up business.

“Pipe Owner Victory” Is Possible if Broadband Prices Decline

The second bucket of AOL subs wasn’t willing to pay much for AOL, but they weren’t particularly price-sensitive about broadband. These are the subscribers that are at risk of defecting to the MSOs and ILEC generic broadband offer relatively soon. The difficulty for the pipe owners is that this bucket is relatively small, representing just 27% of AOL dial-up subscriber base. And importantly, this assumes the pipe owners drop prices to \$30 per month and AOL is unsuccessful developing valuable proprietary content.

“BYOA” Is a Viable Strategy, But for a Subset of AOL Users

The next largest bucket of AOL subs—just under 18%—were price-sensitive about broadband but were willing to pay more than \$5 a month for AOL’s content. That suggests that once broadband prices decline, AOL will probably be able to generate fairly meaningful revenue from these subscribers.

“AOL Carriage” Unlikely to Be Successful at Current Price Points

Finally, only about 10% of AOL’s subscribers were willing to pay relatively high prices for broadband and also willing to pay relatively high prices for AOL’s content. These are the customers that will likely migrate to AOL Broadband today where it’s available. Since this bucket represents only a small fraction of AOL’s installed base, it suggests carriage deals aren’t the strategic “silver bullet” for AOL or the MSOs (see Figure 16).

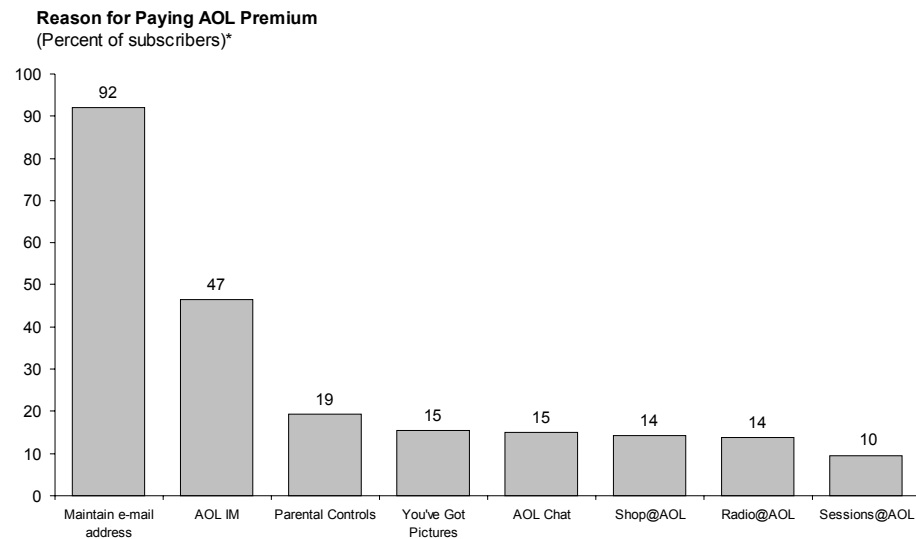
Can Content Save the Day?

One reasonable area of contention in our survey, particularly for the AOL advocates, is that we asked AOL subscribers to rate AOL’s service based on *today’s* content. Clearly, as AOL becomes more adroit at developing new broadband content, the value of AOL Broadband may increase significantly over time.

One way to identify the source of AOL’s value is to ask consumers, “Why are you willing to pay a premium for AOL?” If users are enamored with many of the content-laden AOL features, then it might be possible for AOL to continually improve the value of the content before the pipe owners drop prices. That would suggest AOL might be able to shape the industrial landscape in favor of carriage deals or BYOA.

We asked the same 1,000 AOL users why they were willing to pay the premium. The answer wasn’t particularly encouraging based on AOL’s current content offering. Over 90% of respondents suggested maintaining their e-mail address was the most valuable “content” AOL offered. Instant messaging (IM) capabilities were also popular (although we would note that one doesn’t need to subscribe to AOL to use AOL IM). Far less popular were the content-laden parts of AOL like “You’ve Got Pictures,” “AOL Sessions,” or “AOL Chat.” We think this suggests it will probably be difficult for AOL to entice consumers to pay a meaningful premium for their content today (see Figure 17).

Figure 17: Reason for AOL Premium



Source: JPMorgan .

AOL has recently placed a renewed emphasis on services and content that are unique to AOL. Examples include [Sessions@AOL](#) (i.e., streaming video of “unplugged” music performed by key artists), First Listen (distributing new songs on AOL before radio airplay), and Hot Gossip (weekly live interviews with behind-the-scenes celebrity news). While it’s too early to judge the impact of these new initiatives, we regard them as steps in the right direction in differentiating the AOL service.

APPENDIX: CURRENT BROADBAND PRICING

In Figure 10 we provided average broadband pricing for the MSOs and ILECs. In this appendix, we provide the company-specific data used to develop the industry averages.

Cable Modem Pricing

Figure 18 shows broadband pricing for each MSO, depending on the bundle the consumer buys. All price points assume the customer buys the modem. In general, if the consumer leases the modem, prices are \$5 higher, although the premium for leasing varies among MSOs from as little as \$0 (Time Warner) to as much as \$15 per month (Cox).

Figure 18: Current Cable Modem Pricing by MSO

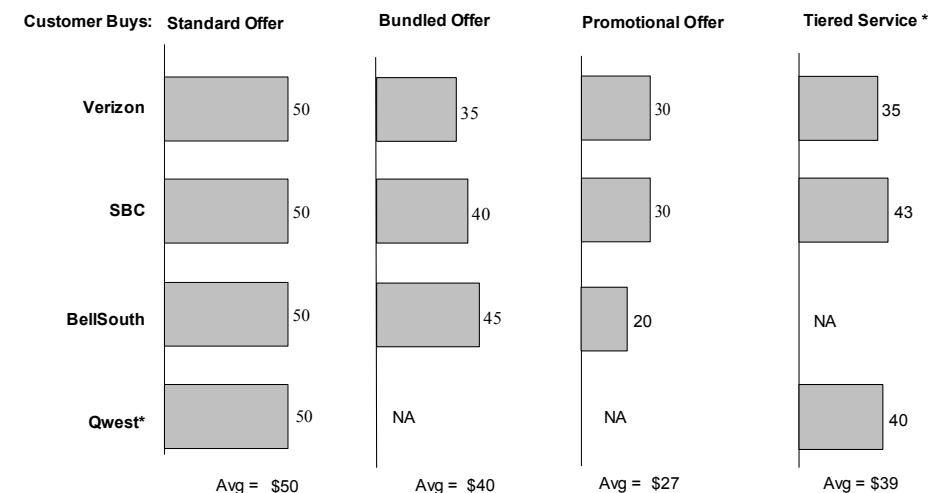


Source: Company reports.

DSL Pricing

Figure 19 shows broadband pricing for each ILEC, depending on the bundle the consumer buys. ILEC prices are the same whether the consumer buys or leases the modem.

Figure 19: Current DSL Pricing by ILEC



Source: Company reports.

* Reflects base rate for lower tiered service. Additional discounts also available on a promotional and bundled basis.

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